

MCV4U Homework Outline

Unit 1

1.1 Rationalizing Expressions and Denominators	p.9 #2d, 3e, 4b, 5b, 7ac
1.2 Slope of a tangent	p.19 #4cde, 8b, 9ac, 10b, 15
1.3 Rates of Change	p.29 #1, 2ab, 4, 7c, 9ab, 10, 13, 15abc, 17abcd, 20
1.4 Limit of a Function	p.38 #5-7, 10def, 11acd, 12a, 13, 14, 15bc
1.5 Properties of Limits	p.45 #3, 4def, 8acd, 9abcd, 10acd, (Ans. for #10 c dne), 13
1.6 Continuity	P.52 #4, 7, 8, 13, 14, 16, 17
Ch.1 Review	p. 56 #1 2 4 7-9 11ab 16 17acde 18 19ad 20 p. 60 #1-8 p. 46 #8def

Unit 2

2.1 The Derivative Function	p.73 #1, 5cd, 7b, 9, 11, 16, 17
2.2 The Derivatives of Polynomial Functions	p.82 #3adef, 6b, 7d, 9bf, 10, 12, 15, 18, 20, 28
2.3 The Product Rule	p.90 #1de, 4, 5a, 6, 7, 12, 13, 14
2.4 The Quotient Rule	p.97 #4f, 5c, 6, 7, 8, 9b, 11, 12, 14, 17
2.5 The Derivatives of Composite Functions	p.105 #1def, 2abc, 8acf, 10, 16, 17, 19
Implicit Differentiation	p.564 #2cf, 3bc, 5ab, 9ab
Review	P.110 #2, 5bcde, 6, 7c, 11a, 12, 13, 18, 24 [ans. for 6a is $f'(x) (2x)$] P.564 #3ab, 5ab P.114 #3-5, 7, 9-11, p.564 #2d, 3d, 6-8, 10

Unit 3

3.1 Higher Order Derivatives, Velocity, Acceleration	p. 127 #2, 4, 6, 7, 8, 11
3.2 Max and Min on an Interval	p. 135 #1, 2, 3af 4bd, 5a, 7, 8, 11, 12
3.3 Optimization Problems	p. 145 # 3, 4, 7, 8, 9, 10
3.4 Optimization Problems in Economics and Science	p. 151 # 1, 2, 3ab, 4, 5, 7, 9, 10, 11a, 12, 13, 17, 19
Optimization: Distance-Time Problems	p. 146 #15 16 19 20
Review	p.156#1,2,3,5,6ab,7ab,10b,12ab,14,16,17,19,20,24,26cd,27,30 p. 160 #1bd,3,4ab,5ab,6,7,8

Unit 4

4.1 Increasing, Decreasing Functions	P.170 # 3, 6-10, 12
4.2 Critical Points, Local Max and Min	P.178 # 2b, 3ab, 4"ab", 7bcf, 8, 9, 11, 13, 14d, 15
4.3 Vertical, Horizontal, Oblique Asymptote	P.193 # 2b, 3ab, 7b 8, 9, 11-13
Mid Chapter Review	P.196 #3, 4ed, 5a, 6, 7, 8bc, 9ab, 10c, 14, 15bcd, 16acd, 17cdeh
4.4 Concavity and Points of Inflection	P. 205 #1ab, 2bd, 4bd, 5ab, 8a, 9-11
4.5 Curve Sketching	P.213 #4acf
Review	P.180 #14 P.217 #2-5, 7-9, 11a, 12ab, 13, 16a, 18, 19, 20ab

Unit 5

5.1 Derivative of $y=e^x$	p. 232 #2ef, 3cdef, 4b, 6, 7, 8, 10ab, 11c, 12, 13ab
5.2 Derivative of $y=b^x$	p. 240 #1-6
5.3 Optimization Problems Exponential Functions	p. 245 #4ab, 5, 6, 11, 12abc, 13, 14
5.4 Derivative of $y=\sin x$, $y=\cos x$	p. 256 #1abcghi, 2, 3cef, 5abcd, 6cd, 8b, 9, 12, 13
5.5 Derivative of $y=\tan x$	p. 260 #1cf, 2ab, 3acef, 4ab, 5, 6, 7, 8, 10
Review	p. 263 #1ef, 2bdef, 3aef, 6ab, 7, 8, 9, 11ab, 13bc, 14bc, 15def, 18, 19, 23; p. 266 #1-3, 5-9

Unit 6

6.1/6.2 Vector operations	p. 281#9 p. 290# 3ab, 5, 9, 11, 12
6.3/6.4 Mult. Vectors by Scalars & Vector Properties	p. 299 #5bd, 6d, 9, 13, 15, 18 p. 307 #6, 7, 8a, 9
6.6 Algebraic Vectors in R^2	P.324 #1, 6a, 7b, 8bd, 9ab only for AB & EF, 10 13a 15
6.7 Operations With Vectors in R^3	P.333 #5b, 6d, 7c, 8, 10, 11, 12, 14, 15
6.8 Linear Combinations and Spanning Sets	P.340 #2, 7a, 9, 11, 12a b(i), 13
Ch.6 Review	P.344 #1, 2a, 3, 5, 6a, 7ad, 8ab, 9, 10ab, 11a, 12b, 14ab, 15ab, 16ac, 18a, 19ab p.348 #4-6

Unit 7

7.1 Velocity as Forces	p.363 #5a, 8, 9, 11, 13, 15, 16
7.2 Velocity	p.369 #2a, 4, 5, 8, 9, 10
7.3 Dot Product	p. 377 #2, 6ef, 7cd, 8, 11, 12, 15
7.4 Dot Product	p. 385 #3, 6c, 10a, 12, 13, 14, 17
7.5 Scalar and Vector Projections	p.398 # 1, 6, 11ab, 12, 13a, 15b
7.6 Cross Product	p.407 #3, 4c, 5, 6, 7, 9
7.7 Applications of Dot and Cross Product	p.415 #3, 5b, 6, 7a, 8, 9
Review	p.418 #3, 4, 6, 7, 9, 10b, 11, 12, 14, 15, 18, 20, 21, 22, 25, 27a, 30, 31ab, 34 p.422 #1c, 2-7

Unit 8

8.1 Vector and Parametric Equations of lines	p.433 #4, 5ab, 8b, 9b, 10ab
8.2 Cartesian/Symmetric Equations of Lines	p.443 #6, 8, 9b, 10de, 11b
8.3 Vector, Parametric, Symmetric Equations in R^3	p. 449 #4, 5abcf, 6, 7, 9, 10d,12
8.4 Equations of Planes in R^3	p.459 #1ab, 4a, 5, 6b, 7ab, 10
8.5 Equations of Planes in R^3	P.468 #7, 8, 9c, 11, 14ab
Ch.8 Review	p.480#3abc, 4, 5abc, 11, 12, 16, 19b, 20a, 21a(answer is 17 degrees), 30, 32a, 34cdef p.484 #1ab, 3ab, 4ab, 6ab

Unit 9

9.1 Intersection of Lines	p.496 #4a, 5a, 7a, 8, 10, 12, 13, 15
9.3 Intersection of 2 Planes	p.469 #12b, 13a p.516 #4ab, 7"abc", 9, 10
9.4 Intersection of 3 Planes	p.531 #5a, 12ab, 13
9.5 Distance from a Point to a Line	p.540 #1a, 2a, 5a, 6a, 7a, 8b
9.6 Distance from a Point to a Plane	p.549 #1, 2b, 3, 4a, 5, 6, 7, 8a
Review	p.552 #4a, 5a, 6, 10, 11, 12ab, 13a, 14ab, 27 p.556 #1ab, 2b, 3a, 5, 6ab, 7